

## **ENVIRONMENTAL SOLUTIONS FOR FOOD & BEVERAGE PROCESSING**



# ENGINEER | DESIGN | BUILD | INSTALL

# Custom Systems for Air Pollution Control and Water & Wastewater Treatment

**Monroe Environmental**<sup>®</sup> has decades of experience working with plants and engineers in the food and beverage industries. We offer cost-effective solutions to meet demanding regulatory requirements, reduce maintenance costs, improve worker safety, streamline production, and minimize downtime.

### Monroe's Engineered Systems

#### **Air Pollution Control**

- Packed Tower Scrubbers
- Venturi Scrubbers
- Quench Towers
- Dust Collectors
- Oil Mist Collectors
- Wet ESPs
- Fiber Bed Filters

#### Water & Wastewater Treatment

- Circular Clarifiers & Thickeners
- Lamella Plate Vertical Clarifiers
- Horizontal Plate Clarifiers
- API Oil/Water Separators
- Oil Skimmers/Oil Recovery Units
- X-Flo Mobile Clarifier<sup>™</sup> and Rental Clarifiers
- Air Strippers

### **Application & Process Expertise**

#### **Air Pollution Control**

- NH<sub>3</sub>, H<sub>2</sub>S, SO<sub>2</sub>, HCl, HF, and acid gas
- Particulate matter PM<sub>10</sub> and PM<sub>2.5</sub>
- Condensables, aerosols, and opacity
- VOCs and odor
- Mist and dust collection

#### **Water & Wastewater Treatment**

- Suspended (TSS) and dissolved (TDS) solids
- Metals precipitation and reduction
- Oil separation and recovery
- Ammonia and VOC stripping
- Mobile water treatment and rentals

# **Recent Monroe Projects**



**Two Primary Clarifiers** capable of processing 1.25 million gallons per day with a custom designed enhanced skimming system to remove FOG in wastewater for a snack production plant.



**Rental X-Flo Mobile Clarifier**<sup>™</sup> with sludge removal pumps to bypass 40 ft. diameter secondary clarifier during rehabilitation at a snack chip plant. The X-Flo produced better effluent during temporary treatment than the existing clarifier during normal operation!



85 ft. diameter **Circular Clarifier** to process wastewater at a dairy farm. The Monroe supplied mechanism was installed in a bolted steel tank with concrete floor. Clarifier was rated for up to 2,000 GPM.



**API Oil/Water Separator** for oil removal for snack chip production facility wastewater with oil recovery/ concentrating tank and waste oil storage tank. The system was selected to enhance the plant's FOG removal capabilities.



**2,000 ACFM Dual Throat Venturi Scrubbers**, 304SS construction for particulate collection from marshmallow powdered sugar coating operation.



**12,000 ACFM Packed Bed Scrubber** to exhaust odor and fumes from sauce cooking kettles.



**1,000 ACFM Spiral Tube Mist Collectors** for mist collection from cheese mold wash-down/cleaning process. The spiral tubes provide a high level of mist agglomeration and removal without using filters.



**Circular Clarifier rebuild for wastewater treatment** at a soft drink bottling facility. The internal mechanism, bridge, and drive were replaced in the 42 ft. diameter unit.



**Liming drum exhaust scrubbing** –  $H_2S$  neutralization and fume control at a leather tannery. Dual 20,000 ACFM Packed Tower Scrubbers, FRP construction, with fans, pumps, and controls.



**27,000 ACFM Monroe Multi-Stage Scrubbing System** with Venturi Scrubber and Cyclonic Separator to remove particulate from food dryer exhaust prior to VOC destruction with a regenerative thermal oxidizer.



**50 GPM Horizontal Clarifier pilot system** for a waste stream from the production of fried foods as well as the plant's sanitary waste. The system was chosen due to its ability to separate both floating and settleable solids.



**350 GPM Circular Clarifier with enhanced custom skimming system** to handle foam and starch accumulation in wastewater for a snack foods company.



**Dual Throat Venturi Scrubber** to handle sticky, water soluble particulate for a beverage producer. The system was rated for 6,600 CFM and met the 99%+ removal efficiency of particles greater than 10 micron.



**Plate Settler for enhanced separation of solids** in a wastewater digester at a brewery. The plates were constructed from 304SS and have 120 modules.



10,000 CFM horizontal flow, multiple tray **Carbon Adsorber** for odor control at a grainary.



30 ft. diameter, 600 GPM **Circular Clarifier** with integral leg set for potato wash process at french-fry production facility.

# **ABOUT MONROE ENVIRONMENTAL**

### **Unsurpassed Experience and Reputation**

Monroe Environmental is a premier provider of air pollution control and water/wastewater treatment systems and services. For over 50 years, Monroe has provided thousands of systems for industrial, municipal, institutional, commercial, and government facilities. We have installations throughout North America, from northern Canada to southern Mexico, and around the globe. As a testament to our outstanding reputation, some of the largest and most prestigious manufacturing companies in the world routinely turn to Monroe to solve their most challenging environmental problems.

# One-Stop Shopping – Systems, Services, and Solutions

Monroe is a full-service company offering a complete line of pollution control equipment that is designed, engineered, and manufactured for the needs of each customer and application on an individual basis. We have complete in-house fabrication and shop assembly capabilities that serve to reduce project costs, provide superior quality control, and expedite project completion times. We also have the experience and capabilities to provide turnkey installations along with a wide array of related services ranging from engineering and design through permitting, project management, and commissioning.



Monroe's staff of engineers, technicians, and project managers is highly experienced at evaluating, custom-designing, fabricating, installing, and commissioning cost-effective, durable, and reliable systems. In addition, in order to help ensure

continued successful system operations with minimal downtimes and peak efficiencies, we offer a complete menu

of support options that include extensive spare and replacement part inventories, as well as annual, as-needed, and emergency services.

## **Experience the Monroe Difference**

The foundation of Monroe's success, reputation for excellence, and continued growth is our commitment to providing each customer the highest levels of service and support in combination with the best, highest quality, and most cost-effective systems for ensuring long-term successful operations. This, combined with our top-notch staff, in-house capabilities, and wide array of offerings distinguish Monroe Environmental as one of the finest environmental equipment providers.

Contact us today and let us help determine the best solution to your air and water pollution control needs. Join the ranks of countless satisfied customers who have experienced the Monroe difference.

#### www.mon-env.com • Registered ISO 9001:2015 and ISO 14001:2015



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